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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/355,637	08/02/1999	KLAUS-DIETER HAMMER	051009/0122	6739

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

17

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application N .

09/355,637

Applicant(s)

HAMMER ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 and 18-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 and 18-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

### **DETAILED ACTION**

#### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 07/09/02 has been entered.

#### ***Rejections Withdrawn***

2. The 35 U.S.C. 112, 2<sup>nd</sup> paragraph and 103(a) rejections in Paper # 17 (mailed 10/09/01) have been withdrawn due to Applicant's amendment in Paper # 13 (filed 07/09/02).

#### ***New Rejections***

##### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 16 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the limitation of "post hardened" means.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 1-10, 12-15, 18-20, 23-25 are rejected under 35 U.S.C. 102(e) as being anticipated by Hammer et al. (US 5,928,737).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37

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CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Hammer et al. has sausage casings comprising thermoplastic starch, 0.5 to 20 % by weight of edible plasticizer which may be glycerol, diglycerol, or sorbitol, 5 to 30 % by weight of fiber reinforcement which may be cotton linters, 2 to 20 % by weight of crosslinker which may be dialdehyde, dicarboxylic acid, diisocyanate, or diepoxide and 2 to 12 % by weight of lubricant which may be vegetable oil, lecithin, or sunflower seed oil (column 3, lines 1-68 and column 4, lines 1-35). The wall thickness of the casing is taught to be around 90  $\mu\text{m}$  (column 5, lines 1-68). The composition is melted to give a thermoplastic mass, extruded and then stretched or blown to give the edible shaped body. Hammer et al. teaches a three-layer casing with the fiber-reinforced layer in the middle in that a coating is applied internally and externally to act as oxygen or water vapour barriers (column 4, lines 40-55).

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-13, 16, 18-23, 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim et al. (WO 93/19125) in view of Andersen et al. (US 5,679,145).

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Lim et al. has extruded and molded articles made out of biopolymers (a starch and protein-based) biodegradable thermoplastic composition. The composition comprises a crosslinked mixture of a native or modified starch in intimate admixture with a protein. A crosslinking agent is used to bind the starch and protein together (column 2, lines 20-31) in the amount of 0.1 to 5.0 weight % (column 7, lines 8-10), and may be aldehydes, dialdehydes, epoxides (column 6, lines 30-38). The plasticizer in the composition is in the amount of about 0.2 to 20 weight %, and may be glycerol, sorbitol and cellose methyl ether (carboxymethylcellulose) (column 7, lines 18-34). The lubricant is in the amount of about 2 weight %, and may be diglyceride or vegetable oil (column 8, lines 1-14). The starch to protein ratio is about 95:5 to about 50:50 (column 5, lines 19-32). The protein may be derived from casein, gelatin, keratin and plants (column 6, lines 3-9). The composition can further include a coloring agent (pigment) (column 8, lines 34-37).

Lim et al. teaches that apart from being biodegradable, the compositions may be comprised entirely of components that are edible by a human or other mammal, and that these edible compositions would be useful for making a packaging article that may be consumed along with the package contents (column 13, lines 16-23). The articles are blown after being extruded (column 11, lines 15-35).

Lim, however, fails to teach the addition of fibers in the molded article.

Andersen et al. has molded and extruded articles having a starch matrix reinforced with fibers (abstract). Andersen et al. teaches that the addition of fibers to the starch improves the fracture energy and toughness of the article, in the amount of 2 to 80 % by weight. One fiber is woodpulp (softwood fibers) which has an average length of about 3.5 mm (column 13, lines 30-

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65). Cotton linter fiber with an average length of from 0.3 to 1 mm in the amount of 15-20 % by weight of the starch composition is also taught (column 46, lines 25-40).

Since Andersen et al. teaches that the addition of fibers to the starch improves the fracture energy and toughness of the article, it would have been obvious to one of ordinary skill in the art to have added the edible fibers taught by Andersen et al. to the starch composition of Lim in order to obtain edible molded articles with improved toughness.

10. Claim 14-16, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lim in view of Andersen et al. as applied to claims 1-13, 16, 18-23, 24-25 above, and further in view of Metzger (US 5,681,517).

Lim has been discussed above. Lim teaches the molded and extruded edible starch article, but fails to teach the wall thickness of the article, and that the article is post-hardened.

Metzger has an edible casein film in the form of a planar film or a film tube especially suited for use in edible sausage casings (abstract). Metzger teaches that the film can have any desired thickness depending on the intended use, and gives examples of thicknesses of from 0.1 to 1 mm for planar films, and 0.1mm to 0.3mm for film tubes (column 3, lines 30-35, column 5, lines 50-65). Metzger teaches that the film tube for casings is then post-hardened (treated with solution and then cured (crosslinked)) (column 5, lines 50-68).

Because Metzger teaches that the film can have any desired thickness depending on the intended use of the edible casings with the claimed thicknesses as examples, and that the process of making the casing involves post-hardening, it would have been obvious to one of ordinary skill in the art to have used the teachings of Metzger in the invention of Higgins in order to obtain an edible casing with the desired wall thickness and hardness for the intended use.

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***Response to Arguments***


11. Applicant's arguments with respect to claims 1-16, 18-25 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

PTA  
10/31/02

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

11/1/02